WHAT IS CLAIMED IS:

1. A blood flow dynamic analyzing apparatus, comprising:

an input means which inputs a tomogram acquired by tomogram imaging means;

a first calculating means which determines a time-concentration curve indicative of information on a temporal variation in each pixel of the tomogram input by the input means;

a second calculating means which determines a time-concentration curve for an inflow artery from the time-concentration curve for each pixel of the tomogram determined by the first calculating means;

a third calculating means which generates an inverse filtering function from the time-concentration curve for the inflow artery extracted by the second calculating means;

a fourth calculating means which generates a transfer function for each pixel of the tomogram on the basis of the reverse filtering function generated by the third calculating means and the time-concentration curve for each pixel of the tomogram determined by the first calculating means; and

a fifth calculating means which forms a blood flow dynamic analysis image by using the transfer function for each pixel of the tomogram generated by the fourth calculating means.

2. The blood flow dynamic analyzing apparatus according to Claim 1, wherein the third calculating means comprises a high-frequency control filtering means which controls high frequency components of the inverse filtering function generated.

3. The blood flow dynamic analyzing apparatus according to Claim 2, wherein the high-frequency control filter means comprises a filtering function calculating means which generates a filtering function on the basis of the time-concentration curve for the inflow artery extracted by the second calculating means.

4. The blood flow dynamic analyzing apparatus according to Claim 3, wherein the filtering function calculating means executes a Fourier transformation on the time-concentration curve for the inflow artery extracted by the second calculating means, sets a control start frequency and a control end frequency for the high-frequency control

filtering means on the basis of the Fourier-transformed time-concentration curve for the inflow artery, and generates a filtering function for the high-frequency control filtering means on the basis of the set control start frequency and control end frequency.

5. The blood flow dynamic analyzing apparatus according to Claim 4, wherein the control start frequency and the control end frequency are determined on the basis of a maximum frequency of the Fourier-transformed time-concentration curve for the inflow artery.

6. The blood flow dynamic analyzing apparatus according to Claim 2, wherein the high-frequency control filtering means comprises a parameter setting means which sets at least one parameter of a degree to which a low frequency part of the high-frequency control filter is emphasized and a band of the high-frequency control filter.

7. The blood flow dynamic analyzing apparatus according to Claim 6, wherein the parameter setting means comprises a display means which displays the filtering function of the high-frequency control filtering means and a varying means which varies the filtering function displayed by the display means.

8. The blood flow dynamic analyzing apparatus according to Claim 7, wherein the varying means varies a shape of the high-frequency control filtering function displayed on the display means using a graphic user interface.

9. The blood flow dynamic analyzing apparatus according to Claim 1, further comprising:

an extracting means which extracts a maximum connected pixel area in the tomogram input by the input means; and

a removing means which removes areas unnecessary for blood flow dynamic analysis from the tomogram input by the input means on the basis of the maximum connected pixel area extracted by the extracting means.

10. The blood flow dynamic analyzing apparatus according to Claim 9, wherein the unnecessary areas include room air, a bed, and bones.

11. The blood flow dynamic analyzing apparatus according to Claim 1, further comprising:

a determining means which determines a time-concentration curve for an outflow vein from the time-concentration curve for each pixel of the tomogram input by the input means and finding peak values of the determined time-concentration curve for the inflow artery and the determined time-concentration curve for the outflow vein; and

a correcting means which corrects a partial volume averaging effect on the time-concentration curve for the inflow artery so that the found peak value of the time-concentration curve for the inflow artery matches the found peak value of the time-concentration curve for the outflow vein.

12. A blood flow dynamic analyzing method, comprising:

an input step of inputting a tomogram acquired by a tomogram imaging apparatus;

a first calculating step of determining a time-concentration curve indicative of information on a temporal variation in each pixel of the tomogram input by the input step;

a second calculating step of determining a time-concentration curve for an inflow artery from the time-concentration curve for each pixel of the tomogram determined by the first calculating step;

a third calculating step of generating an inverse filtering function from the time-concentration curve for the inflow artery extracted by the second calculating step;

a fourth calculating step of generating a transfer function for each pixel of the tomogram on the basis of the reverse function generated by the third calculating step and the time-concentration curve for each pixel of the tomogram determined by the first calculating step; and

a fifth calculating step of forming a blood flow dynamic analysis image by using the transfer function for each pixel of the tomogram generated by the fourth calculating step.

13. The blood flow dynamic analyzing method according to Claim 12, wherein the third calculating step comprises a high-frequency control filtering step of controlling high frequency components of the inverse filtering function generated.

14. The blood flow dynamic analyzing method according to Claim 13, wherein the high-frequency control filter step comprises a filtering function calculating step of generating a filtering function on the basis of the time-concentration curve for the inflow artery extracted in the second calculating step.

15. The blood flow dynamic analyzing method according to Claim 14, wherein the filtering function calculating step executes a Fourier transformation on the time-concentration curve for the inflow artery extracted in the second calculating step, sets a control start frequency and a control end frequency for the high-frequency control filtering means on the basis of the Fourier-transformed time-concentration curve for the inflow artery, and generates a filtering function for the high-frequency control filtering means on the basis of the set control start frequency and control end frequency.

16. The blood flow dynamic analyzing method according to Claim 15, wherein the control start frequency and the control end frequency are determined on the basis of a maximum frequency of the Fourier-transformed time-concentration curve for the inflow artery.

17. The blood flow dynamic analyzing method according to Claim 13, wherein the high-frequency control filtering step comprises a parameter setting step of setting at least one parameter of a degree to which a low frequency part of the high-frequency control filter is emphasized and a band of the high-frequency control filter.

18. The blood flow dynamic analyzing method according to Claim 17, wherein the parameter setting step comprises:

a display step of displaying the filtering function of the high-frequency control filtering means on a display unit; and

a step of varying the filtering function displayed in the display step.

19. The blood flow dynamic analyzing method according to Claim 18, wherein the varying step varies a shape of the high-frequency control filtering function displayed in the display step using a graphic user interface.

20. The blood flow dynamic analyzing method according to Claim 12, further comprising:

an extracting step of extracting a maximum connected pixel area in the tomogram input in the input step; and

a step of removing areas unnecessary for blood flow dynamic analysis from the tomogram input in the input step on the basis of the maximum connected pixel area extracted in the extracting step.

21. The blood flow dynamic analyzing method according to Claim 20, wherein the unnecessary areas include room air, a bed, and bones.

22. The blood flow dynamic analyzing method according to Claim 12, further comprising:

a step of determining a time-concentration curve for an outflow vein from the time-concentration curve for each pixel of the tomogram input by the input means and finding peak values of the determined time-concentration curve for the inflow artery and the determined time-concentration curve for the outflow vein; and

a correcting step of correcting a partial volume averaging effect on the time-concentration curve for the inflow artery so that the found peak value of the time-concentration curve for the inflow artery matches the found peak value of the time-concentration curve for the outflow vein.

23. An image diagnosing apparatus that can acquire a tomogram of a living body, comprising:

an input means which inputs a tomogram acquired by tomogram imaging means;

a first calculating means which determines a time-concentration curve indicative of information on a temporal variation in each pixel of the tomogram input by the input means;

a second calculating means which determines a time-concentration curve for an inflow artery from the time-concentration curve for each pixel of the tomogram determined by the first calculating means;

a third calculating means which generates an inverse filtering function from the time-concentration curve for the inflow artery extracted by the second calculating means;

a fourth calculating means which generates a transfer function for each pixel of the tomogram on the basis of the reverse filtering function generated by the third calculating means and the time-concentration curve for each pixel of the tomogram determined by the first calculating means; and

a fifth calculating means which forms a blood flow dynamic analysis image by using the transfer function for each pixel of the tomogram generated by the fourth calculating means.

24. The image diagnosing apparatus according to Claim 23, wherein the third calculating means comprises a high-frequency control filtering means which controls high frequency components of the inverse filtering function generated.

25. The image diagnosing apparatus according to Claim 24, wherein the high-frequency control filtering means comprises a filtering function calculating means for generating a filtering function on the basis of the time-concentration curve for the inflow artery extracted by the second calculating means.

26. The image diagnosing apparatus according to Claim 25, wherein the filtering function calculating means executes a Fourier transformation on the time-concentration curve for the inflow artery extracted by the second calculating means, sets a control start frequency and a control end frequency for the high-frequency control filtering means on the basis of the Fourier-transformed time-concentration curve for the inflow artery, and generates a filtering function for the high-frequency control filtering means on the basis of the set control start frequency and control end frequency.

27. The image diagnosing apparatus according to Claim 26, wherein the control start frequency and the control end frequency are determined on the basis of a maximum frequency of the Fourier-transformed time-concentration curve for the inflow artery.

28. The image diagnosing apparatus according to Claim 24, wherein the high-frequency control filtering means comprises a parameter setting means which sets at least one parameter of a degree to which a low frequency part of the high-frequency control filter is emphasized and a band of the high-frequency control filter.

29. The image diagnosing apparatus according to Claim 28, wherein the parameter setting means comprises a display means which displays the filtering function of the high-frequency control filtering means and a varying means which varies the filtering function displayed by the display means.

30. The image diagnosing apparatus according to Claim 29, wherein the varying means varies a shape of the high-frequency control filtering function displayed on the display means using a graphic user interface.